

# Notice of Allowability

Application No.

10/025,725

Examiner

Huyen X. Vo

Applicant(s)

AHROON, WILLIAM A.

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/28/2005.
2. ☒ The allowed claim(s) is/are 1-3.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**WAYNE YOUNG**  
**SUPERVISORY PATENT EXAMINER**

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant representative, Mr. Kevin M. Barner, on 6/6/2006. The application has been amended as follows:

**Claims 23-26 have been cancelled.**

### ***Allowable Subject Matter***

2. Claims 1-3 are allowed over prior art of record. The following is an examiner's statement of reasons for allowance: Katayanagi et al. (US 5687285) disclose a noise reducing method and device for reducing the noise contained in an input speech signal, which is calculated by frame power calculating circuit 13 a mean frame power RMS for each frame of the digital input signal. A suppression ratio calculating circuit 14 calculates different values of the noise suppression ratio depending on the magnitude of the mean frame power RMS relative to pre-set threshold values. A level discrimination circuit 18 forms a changeover control signal depending on the noise level and transmits the changeover control signal to the suppression ratio calculating circuit 14 for switching

control of the threshold value. The suppression ratio value from the suppression value calculating circuit 14 is transmitted via a smoothing circuit 15 to a noise-reducing circuit 16 and multiplied with the input signal  $x(n)$  for reducing the noise component of the speech signal. The effect of the noise-reducing operation is changed in response to the noise level and the intensity of the noise-reducing operation is moderated in portions having a low noise level to prevent deterioration in the sound quality (*referring to reference*). Ertem et al. (US 6453289) teach an improved noise reduction algorithm is provided, as well as a voice activity detector, for use in a voice communication system. The noise reduction algorithm and voice activity detector can be implemented integrally in an encoder or applied independently to speech coding application. The voice activity detector employs line spectral frequencies and enhanced input speech, which has undergone noise reduction to generate a voice activity flag. The noise reduction algorithm employs a smooth gain function determined from a smoothed noise spectral estimate and smoothed input noisy speech spectra. The gain function is smoothed both across frequency and time in an adaptive manner based on the estimate of the signal-to-noise ratio. The gain function is used for spectral amplitude enhancement to obtain a reduced noise speech signal. Smoothing employs critical frequency bands corresponding to the human auditory system. Swirl reduction is performed to improve overall human perception of decoded speech (*referring to reference*). Both Katayanagi et al. and Ertem et al. fail to disclose the specific steps of calibrating the at least one spoken word in response to at least on defined speech energy criterion, wherein said calibrating includes setting a target RMS value, setting a tolerance valued within a

predefined range of the target RMS value, calculating an actual RMS value of the voice input, calculating a scaling factor using target RMS value and actual RMS value and applying the scaling factor to the actual RMS value if the actual RMS value is not within the tolerance value and determining if the scaled RMS value is within the tolerance value (*as disclosed in figure 7*). Furthermore, it would have not been obvious to one of ordinary skill in the art at the time of invention to modify Katayanagi et al. and/or Ertem et al. in order to obtain the claimed invention. Therefore, claims 1-3 are allowed over prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV

2/6/2006

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